OCT 4 1930

VOL. II. JUNE, 1930 No. 6

Agricultural Education

Future Farmers of Delaware

"All wish to know, but few the price will pay"—Juvenal

EDITORIAL COMMENT

AGRICULTURAL EDUCATION

A monthly magazine for teachers of agriculture. Managed by an editorial board chosen by the Agricultural Section of the American Vocational Association and published at cost by the Meredith Publishing Company, at Des Moines, Iowa.

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Subscription price, $1 per year, payable at the office of the Meredith Publishing Company, Des Moines, Iowa. Foreign subscriptions, $1.25. Subscriptions terminate January 1 or July 1. Single copies, 10 cents. Contributions should be sent to the Special Editors or to the Editor. No advertising is accepted.

Entered as second-class matter, under Act of Congress, March 3, 1879, at the post office, Des Moines, Iowa.

SUMMER ACTIVITY

WITH the discontinuance of regularly scheduled classes and the closing of school for the summer vacation, the vocational agriculture teacher becomes more than ever responsible for the effective use of his time.

He must now make his own schedule. But first he must decide upon the ends to be achieved as a result of the summer's work. There are always certain standard activities to be carried out, of which project supervision is the most important example. But each summer will find a score of other worthwhile activities clamoring for attention.

The selection of a summer activity program calls for the exercise of considerable judgment. The teacher must be able to recognize and select those activities which rank highest in importance so far as his whole community program is concerned. He must also realize that time and energy are not unlimited and that it is better to concentrate his efforts rather than to attempt more than can be well done.

After the selection of activities has been made, the next step is to work out the ways and means to be used in bringing about desired results. It is just as important that the vocational teacher work out definite plans for his summer work as it is that he plan his organized teaching program. The summer plans should be in writing and should include objectives, devices, procedures, and results achieved. Such a plan is a valuable guide at the time and is a valuable reference for future years. A well-thought-out plan will do much toward increasing the effectiveness of the teacher's summer program.

A. V. A. LIFE MEMBERSHIIS

THE American Vocational Association is making a definite effort to build up an endowment fund.

One thousand life memberships of $100 each would provide the sum of $100,000. Much could be accomplished for Vocational Education with the income derived from such an amount.

President Paul Chapman and the executive committee have formulated a plan whereby individuals may acquire a life membership by means of partial payments. The plan calls for the payment of an initial $20 and the balance at the rate of $10 per month. This will enable many to take out life memberships who otherwise might find it difficult.

Workers in agricultural education should take advantage of this opportunity.

Incidentally, may we suggest that the thoughtful reading of *Agricultural Education* is an inexpensive but effective device in self-improvement.

THE ANNUAL VACATION

IT IS PROBABLY not absolutely necessary that the Vocational Agriculture teacher have a vacation during the year, but it certainly seems desirable.

Some men appear to go ahead satisfactorily, year after year, without the change and relaxation which are the principal elements of a good vacation.

To most of us regular folks, however, there comes a time when a change seems almost imperative. The urge to do or to see something different, to go somewhere, to forget for a while our bread-and-butter existence, is almost irresistible.

And the fine thing about the whole matter is, that we usually carry on just a little bit better because of the rejuvenating effect of a pleasant vacation.

H. O. Sampson

PROFESSOR and State Supervisor H. O. Sampson of New Jersey has been secured as editor for all material dealing with the Future Farmers of America.

Professor Sampson appears to have the distinction of being the first high school teacher of agriculture in the country.* He taught this subject in Waterford, Pennsylvania, in 1904–05. The course was a part of the offering of the regular high school and the school still includes agriculture in its curriculum.

After graduation from Iowa State College, Professor Sampson taught in Pennsylvania and then went to the U. S. D. A. as a co-worker of the late Dr. A. C. True in the promotion of agricultural education. After some time in Maryland and South Carolina, he was called to New Jersey in 1918 as teacher-trainer and state supervisor under the Federal Vocational Education Act. Some time following graduation at Iowa State, he found time to take an M. S. at Teachers College, Columbia.

Professor Sampson has always been interested in the organization of vocational boys. In 1923 he was instrumental in starting *The Young Farmers Association of New Jersey.* This group published a booklet called "The Future Farmer." Professor Sampson is one of four men to be awarded an American Farmer Key (honorary) by the F. F. A.

All Future Farmer copy should be sent direct to Professor H. O. Sampson, New Brunswick, New Jersey.

*The Editor will be pleased to hear from any reader who feels that he has a better claim to the title "First high school agriculture teacher."

F. E. Armstrong

PROFESSOR Fred E. Armstrong is the "long distance" representative on the Editing-Managing board of Agricultural Education.

Mr. Armstrong has been in Hawaii since 1926 in charge of the training of teachers of Vocational Agriculture. We seldom see him but he is frequently heard from.

Graduating from Clemson College in 1916, he taught successively and successfully in Louisiana, Georgia, and South Carolina. He secured his master's degree in 1921 at the University of Minnesota and was Professor of Agricultural Education at Idaho until he left for Hawaii in 1926.

Methods

The Psychology of a Program in Vocational Agriculture

C. R. WISEMAN, Professor of Agricultural Education, Brookings, South Dakota

THE "what" and "how" of local programs in vocational agriculture have received much attention of late. The "why" has received less attention or is only casually considered. Usually the reasons and explanations given are superficial. We are told that it is "the thing" to do and that it will "get results."

Such pseudo-reasons do not adequately explain. A good clear "case" explains and motivates because it can be imitated in whole or part. There are certain psychological bases or principles of a program of work in vocational agriculture which, by intellectualizing the whole procedure for us, explain and motivate our work. We are concerned in this discussion with these underlying principles capable of such activation.

Psychologically, planning and programming are nothing more than *imaginatively* carrying out the task at hand. By means of them one is able to see the various steps in sequence, to know what the probable effects will be and what variations will need to be met. Whether the plan is for a daily lesson, a field trip, a project visitation, setting up an exhibit, or planning a season's work, the situation is essentially the same.

Psychologically, a plan or program furnishes us with goals or objectives to work towards. There is motivation in knowing where we are going and starting in that direction. The program literally draws us forward. We see the goal, survey the intervening distance, and make the trial. Goals concentrate our attention and offset distractions. The young agricultural instructor is often amazed at the many things which could be done and distracted to inactivity by their numbers. Let him narrow his endeavors to a reasonable few, tackle one at a time, and he will be surprised at his own accomplishments. The specific plan or program turned the trick for him.

Psychologically, our plans or programs help and motivate us by giving perspective and balance. An active imagination provides us with the "aviator's view." The various parts and steps are placed in their proper order and sequence. We are saved from distraction and waste of time from one thing to another. Our nimble minds have been over the ground and have put the whole thing in array. Our road is marked out and once started we do not have to waste time looking for road-signs and debating what attractions to see.

Recognizing these psychological bases just suggested and realizing their potentialities to motivation by explication—four principles of building a program of vocational agriculture are here set forth. The list of principles is small and there are doubltess others.

1. *Your program should be your own.*

Say, "This is mine," and you will work harder for it. Others may help. The school superintendent or principal, your predecessor, the state supervisor, and the teacher trainer may help and give guidance but in the last analysis your program is your own to prosecute.

2. *Your program should be adapted to the locality.*

If it is adapted, you see it as workable. This does not preclude a statewide program. The various common elements in local programs really make a state program. Some of the agricultural and social features of your school and community are peculiar and warrant a program fitted to them.

3. *Your program should be one of considerable variety and breadth but should maintain quality.*

There is evidence to warrant the statement that too narrow a program—general confinement to classroom activities—operates to cause discontinuance of agriculture departments. On the other hand, attention to too many things will tend to dissipate your energies and reduce the quality of work.

4. *Make your program definite. Work it out on paper.*

This serves the double purpose of laying out specific objectives and circumventing possible distractions. Not only set the various parts of your program on paper—as building up the library—project supervision—publicity, and the like, but work them out in considerable detail. You may rest assured that if your plans are hazy and indefinite to *you* that to your patrons they present no order or system at all.

The final phase of this discussion deals with a slogan, "Plan Your Work and Work Your Plan." We have so far been concerned with the first element of this slogan, "Plan Your Work." But plans do not execute. Many get real enjoyment out of planning but utterly fail to take the completing step. Others get their joy out of activity but find planning irksome. Both elements are essential.

The objective of this psychological analysis of the plan or program is to motivate the execution. The "why" of your program is as important to you in your work as the "what" and the "how" because it can motivate.

Developing Constructive Thinking Ability in Vocational Agriculture

G. A. SCHMIDT,
Teacher-Trainer, Fort Collins, Colorado

[Editor's Note: Mr. Schmidt's brief treatise on developing thinking ability is so directly applicable to your job that it is being passed on to you for your use.]

CONSTRUCTIVE thinking involves the following steps:

1. *Clearly and definitely stating the decision or decisions that need to be made.* This is simply sensing or apprehending the problem or difficulty. One cannot solve any problem or decide any question until he first clearly recognizes the problem.

2. *Locating or identifying the factors influencing or conditioning the decision or decisions.* A factor is an essential element, condition or influence that contributes to produce a result. Everything one decides to do is conditioned by one or more important influences and these influences are the factors of the decision. Identifying the factors influencing a decision is a process of analysis. It is simply a matter of bringing to light the important things at the bottom of a situation or problem. It may be regarded as a matter of locating and defining the difficulty.

3. *Determining the kind of information needed to weigh the factors.* There are certain facts which bear upon each factor. The right kind of facts or information must be gathered before any factors can be weighed. Determining the kind of information needed to weigh factors is again a problem of analysis.

4. *Getting the information that is needed to weigh the factors.* This is simply

(Continued on page 96)

Farm Practice as a Method of Teaching

CARSIE HAMMONDS,
Teacher-Trainer, Kentucky

WHAT one is to teach (content) and *how* he is to teach it (method) cannot be separated. It does not follow that having selected the content method will take care of itself.

Farm practice is a method or way of teaching. As is true of any other method of teaching, the primary purpose of farm practice is educational. Making money is not the primary aim, however important income may be in farm-practice work and in a vocation.

In the opinion of the writer, if the vocational agriculture teachers in Kentucky had voted on the question ten years ago the requirement of farm practice would have received a very small affirmative vote; today there is prob-

(Continued on page 96)

Professional

Objectives for My Department (1929-30)

S. M. WOODHEAD,
Teacher of Agriculture, Middleburg, Pa.

1. To teach better farm practice thru:
   a. Well-planned courses in agriculture.
      (1) An average of at least two field trips per month in each course.
      (2) More practicums and laboratory work.
   b. Well-planned and well-supervised home practice.
2. To further equip and arrange the agriculture department for the best working order.
3. To make an enterprise survey of at least fifty farms and summarize data on which to base instruction.
4. To make a local practice survey of the enterprises of *fruit*, *poultry*, and *dairying* covering at least twenty-five farms.
5. To carry on a class project in poultry starting with the building of a house on the school grounds in September.
6. To hold a community fair sometime in October or November.
7. To give department regular and ample publicity.
8. To make a photographic record of all the major activities of the department and of the junior and senior projects.
9. To select and coach a demonstration team for the State Farm Products Show in January.
10. To make the agricultural club a real live organization with many interesting activities and, if possible, to join the Future Farmers of America.
11. To plan and beautify the school grounds with suitable plantings.
12. To make s more complete survey of the out-of-school group.
13. To give a four-weeks' short course in February.
14. To survey the desire for and give a ten-lesson night course during the winter months.
15. To hold a banquet for the parents and directors in the spring, sponsored by the agricultural club.
16. To put on a worthwhile supervised farm-practice program by:
   a. Early selection of projects with contracts required.
   b. A thoro and systematic planning of home projects.
   c. Encouraging the use of purebred stock in every way.
   d. Making farm management tours whenever practical.
17. To encourage local farmers to call on the department for assistance in their farm problems.
18. To co-operate with the County Farm Agent in all ways possible when not conflicting with my own duties.
19. To co-operate with the School Administration and with the other departments of the school to the fullest extent.
20. To endeavor in all ways possible to teach my boys to appreciate the pleasures and opportunities in farm life.
21. To plant at least 5,000 trees about the time of spring arbor day.

Objectives for the Summer Months

1. Careful and regular supervision of all Junior and Senior projects being careful not to neglect my wonderful opportunity for individual instruction.
2. Increase reference library by:
   a. Securing additional bulletins.
   b. Reclassify all bulletins and make all supplementary material readily available for use.
   c. Clipping and classifying magazine articles of value from past year's publications now on file.
   d. Securing additional reference books, particularly those of importance to courses to be taught next year.
3. Secure more illustrative material:
   a. Complete collection of grain, seed, feed, and fertilizer samples.
   b. Secure and mount different grain varieties of importance.
   c. Purchase a set of poultry breed pictures and mount.
   d. Secure wood samples and leaves to be used in identification work in the course in Forestry.
   e. Collect and preserve insect and disease specimens, especially those of importance in Fruit and Vegetable Gardening.
   f. Make charts on (1) Culling; (2) feeding of chicks; (3) chick diseases and control measures.
4. Construct a cabinet suitable for filing illustrative material.
5. Make all arrangements and take local chapter of F. F. A. on a summer tour in June.
6. Make plans and arrangements for starting a class poultry project with the opening of school in September.
7. Prepare yearly plans for each course to be taught next year, with a tentative list of field trips to be taken and all laboratory exercises and practicums to be performed.
8. Visit all boys eligible for high school in the interest of enrollment.
9. Mimeograph desired plans for field trips and practicums.
10. Prepare and mimeograph explanation of project work with suggested types of projects and also outline for project plans.
11. Make an enterprise survey to cover at least fifty farms and summarize data for use.
12. Make a local practice survey to include at least fifteen farms of fruit growing, poultry raising and dairying.
13. Prepare and put on a vocational agriculture exhibit at the County Teachers' Institute to be held in August.
14. Take at least one picture of all projects and all other activities of interest.
15. Give my Department all the publicity that is justified during the summer.
16. Prepare a list of all needed equipment and supplies to be secured.
17. Keep an accurate record of all summer activities that are carried on.

Objectives of the New South Carolina Program

AT THE regular annual conference of the agricultural teachers held at the new Future Farmer Camp at Tamassee this summer, the following objectives were set up and adopted by the agricultural teachers of South Carolina:

1. Each teacher will conduct a local essay contest on co-operative marketing as a basis for selecting representatives to enter county and district contests.
2. Each agricultural student will be encouraged to make a labor income of $150 from his supervised practice.
3. Each student will be urged to save or reinvest in farming one-third of his labor income from his supervised practice.
4. Each teacher will teach thrift, sound principles of the farming business, practical economy, and record keeping.
5. Each teacher will teach sufficient farm mechanics to meet the needs of his supervised practice program.
6. Each Future Palmette Farmer chapter will send a judging team to the district judging contest.
7. Each teacher will have an Advisory Council composed of the president and secretary of his evening classes and the officials of his high school.
8. Each teacher will organize a local active chapter of the state-wide organization of Future Palmetto Farmers. Each chapter to be represented at the State Fair School by one member.
9. Each school will make a vocational exhibit at a community, district, county, or State Fair wherever possible.
10. An educational and recreational trip will be arranged for the boys in each school, making all possible use of the Future Farmer camp at Tamassee.
11. It will be the aim of each full-time teacher to have a minimum of 75 persons enrolled in some one of the following types of classes: all-day, day-unit, part-time, and evening.
12. Each teacher will make an effort to build up his supervised practice program with all-day, day-unit, and part-time pupils with the use of experiment station data from Agricultural Education, as in evening classes.
13. An honest effort will be made to have 95 percent of the pupils compete some supervised practice and 90 percent complete their entire supervised practice program that was set up at the beginning of the year.
14. Each teacher will use the products of his boys' projects in teaching buying and selling co-operatively.
15. Each teacher will so plan his summer work that it will contribute the largest possible amount to his entire program.

All of the agricultural teachers, teacher-trainers, and supervisors, in the state are committed to the above set of objectives and will put forth their best efforts in trying to accomplish them for the best interests of all concerned.

Some Significant Points in the 13th Annual Report of the Federal Board

F. W. LATHROP,
Specialist in Research

THE careful selection of a few figures and facts from the thirteenth Annual Report of the Federal Board for Vocational Education should afford a view of the size and variety of the program of vocational agriculture in the United States.

This brief statement, however, cannot be compared with a detailed study of the report, which affords a much more thoro and careful analysis. The graphs of the report show that vocational agriculture has progressed steadily since 1917. Evidence of the improved quality of the program is not lacking.

Three figures will suffice to show the present size of the program. The total enrollment for all types of instruction was 168,444. The money expended was $8,418,981.20. Of this 20.2 percent was from state funds, 45.2 percent was from local funds, and 34.4 percent was from federal funds. There were 3,966 all-day teachers on a 12-month basis. These figures and the following figures include Negro schools.

Classes in vocational agriculture are of four types—all-day, part-time, day-unit, and evening. A few figures will suffice to sketch the status of each.

This year the enrollment in all-day classes passed the 100,000 mark. The figure for 1929 is 106,111, an increase of 9,170 over 1928. There were 3,788 all-day units in 1929, an increase of 235. The states having the largest number of all-day units or departments were Texas, Ohio, Illinois, South Carolina, and Mississippi with 269, 197, 188, 177, and 169 respectively.

The number of part-time classes shows a decrease. The number is 337, a decrease of 18 classes. The total enrollment, however, showed an increase. The 1929 enrollment was 5,128. The states having the largest numbers of part-time classes were Ohio, South Carolina, Arkansas, New York, and Georgia with 56, 53, 44, 38, and 35 units respectively. Altho not shown in the report, Wisconsin had 38 classes with an enrollment of 597.

Day-unit classes showed an increase from 514 to 577. The enrollment increased from 8,310 to 9,922, an increase of 1,612. In general, day-unit classes have been more frequent in the southern states, particularly in Arkansas, Tennessee, and Mississippi with 73, 71, and 68 classes respectively. Outside the South, the only other states with any considerable number were New York and Pennsylvania with 22 and 13.

Evening schools showed the greatest increase. The number of classes increased from 1,338 to 1,831. Enrollment jumped from 35,192 to 47,283, an increase of 12,091. South Carolina, Virginia, Texas, and North Carolina had 321, 187, 163, and 151 classes respectively.

New Farm Mechanics Text

"Principles of Farm Mechanics," M. A. and W. M. Sharp (John Wiley & Sons, $2.40 net, 269 pages). "M. A." is teacher-trainer in farm mechanics at Ames, and "W. M." a Nebraska farmer. The book is designed to cover a year's work in shop. The introduction of ten pages is concerned with instructions to teachers. Such problems as determining what to teach, outlining a course of study, steps in good teaching, important points in demonstration work, plan of outlining year's work, and shop project score card, are set forth in a clear and convincing manner in the Introduction. The twenty-five chapters cover the usual range of farm mechanics activities, with carefully chosen jobs under each enterprise. The jobs are organized in excellent style, illustrations well chosen, and discussion problems with references make the book helpful to both teacher and student.—A. P. Davidson, Kansas.

Greatest Economic Issue

An unusual symposium on the agricultural situation is contained in the February and April issues of Rural America. In the February issue Dr. H. C. Taylor sets forth what he regards as "The Greatest Economic Issue." In April this is commented upon by H. A. Wallace, Wheeler McMillen, Father O'Hara, K. C. Hatch, Dr. John D. Black, and E. C. Winder. The series presents briefly and interestingly the principal current points of view.

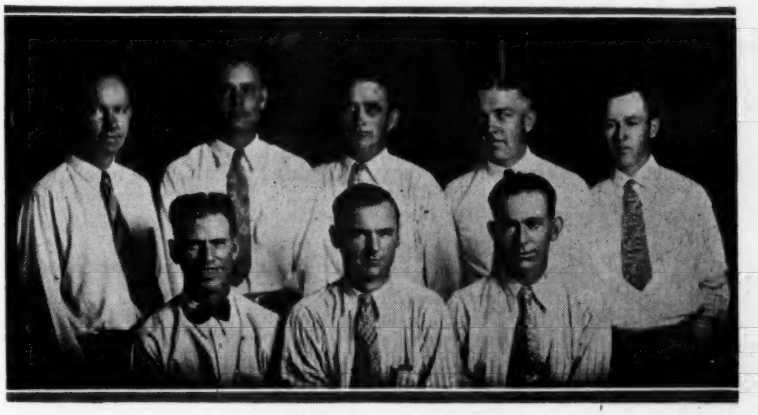
You should have received the following publication from the United States Department of Agriculture, Bureau of Agricultural Economics: "List of Publications on Agricultural Economics of Interest to Teachers of Vocational Agriculture." If you did not receive a copy, it is yours for a postal card.

When wer'e thru changing we're thru.

Resolutions for 1930

KENTUCKY vocational agriculture teachers are trying to live up to the following resolutions:

1. I will make surveys to determine the needs and opportunities of my community.
2. I will plan in writing my yearly program of work.
3. I will spend my energy on those problems necessary to the development of a worthwhile program of vocational education in agriculture.
4. I will teach boys rather than subjects. I will teach boys how to solve farm problems by allowing them to solve them.
5. I will plan before each class period the procedure which I expect to follow. I realize that teachers are paid to plan problems for their pupils rather than hear lessons.
6. I will take field trips when I can do better teaching by going out than by staying at the school.
7. I will collect illustrative materials and use them in my teaching.
8. I will guide my pupils in the execution of their project plans. I shall strive for 100 percent completion of all projects.
9. I will see that each pupil keeps an accurate record of each project in his farm practice program.
10. I will endeavor to acquaint all parents with the purpose and values of farm-practice work.
11. I will encourage a future farmers' organization for boys taking agriculture.
12. I will have one or more evening classes.
13. I will be prompt and accurate in making all my reports.
14. I will order sufficient quantities of all bulletins needed in my classes. I will classify and file bulletins according to the best classification available.
15. I will improve myself professionally.



Bell County Agricultural Club

Top row, left to right: H. L. Spencer, Killeen; W. F. Sooge, Rogers; C. V. Robinson, farm bureau representative; J. A. Hendricks, president, Academy Cons.; F. L. Pool, Troy. Bottom row, left to right: R. E. Hudspeth, Bartlett; J. M. Parks, county agent, Belton; J. A. Miller, Holland.
(Courtesy of the Progressive Farmer)

Sectional Teachers' Organizations

TEXAS teachers are taking strongly to county and district organizations.

The Bell County Club, whose members are introduced in a picture on this page, was organized in September, 1928, for the purpose of unifying the county program in agriculture. Its program of work for the past year was printed in the September issue of Agricultural Education. A recent report is to the effect that the results of the first year's work have been so gratifying that the club will redouble its efforts during the current year.

Another strong local organization in Texas is that in the Stephensville Supervisory District, which meets the second Thursday of each month at John Tarleton College.

Farm Mechanics

A Farm Mechanics Evening School in Montana

S. S. SUTHERLAND,
Teacher-Trainer,
Bozeman, Montana

TO M. K. LUTHER, Vocational Agriculture Instructor in Teton County High School, Choteau, Montana, goes the distinction of having organized and conducted the most successful evening school held in Montana this year.

Eighteen farmers whose ages varied from 17 to 62 attended class for five consecutive Saturdays, traveling from 8 to 25 miles to take advantage of the opportunity to receive instruction in farm mechanics.

Classes were held each Saturday, beginning at 9 o'clock in the morning and lasting until 5 in the afternoon. Contrary to his expectations, Mr. Luther had to turn away prospective students as 25 wished to enroll for the instruction and equipment was available only for the 18. Only 2 of these 18 had an attendance record of 60 percent or less and 11 attended every class meeting held.

Mr. Luther comments on the attitude of his students as follows: "I found no interest problem to deal with after the first meeting. When a man gets up at 5, does his chores, and drives twenty miles to get in to class on time, he isn't going to start a game of leap frog. Whenever one of these men ran out of a job, he spent his time working over material needing repair which he had brought from home.

Dozens of saws, chisels, milk cans, hay ropes, and the like, occupied every corner of the shop during the five weeks that the course was in progress. We covered some work in running ditches and leveling by using the spirit level and transit; filing and fitting crosscut and rip saws; a 'noodle session' on painting and shop arithmetic, such as building estimates; tempering tools and such tool sharpening as drill bits, auger bits, screw driver, and so on. Each man learned how to use a steel square in cutting bevels and rafters."

As a result of this supervised practice program, Mr. Luther hopes to see a building set aside for shop work on each farm represented, a shop equipped to do the common and practical farm mechanics jobs. The course was financed by asking each of the men who enrolled to make a deposit of $3 at the beginning of the course to cover the material used. Less than half of the deposit was actually needed and the balance was refunded at the end of the course.

As a social feature, the pupils had their noon meals together at the boys' dormitory which the school maintains. Graduation exercises were held at the end of the course and each farmer who completed the work outlined was given a certificate of achievement listing the skills he had acquired. All of the men expressed themselves as being enthusiastic over the results obtained and many inquiries have already been made as to whether the course would be continued another year.

A Class Project in Farm Mechanics

R. B. JEPPSON,
State Supervisor, Agricultural Education,
Nevada

THE farm boys enrolled in vocational agriculture at the Churchill County High School at Fallon, Nevada, under the supervision of L. C. Schank, have completed as their first class project the construction of a frame building 14 x 28 feet which is to be used as a dressing room for the football teams. The building was completed in nine days.

A project of this type furnishes the best kind of educational mechanics training because it gives boys real practical experience. As a result, they will be able to do similar construction work when they become farmers. An enterprise of this kind is comparable to many which farmers have, such as building a small house, garage, poultry house, or cow barn. They receive operative training in measuring, cutting, fitting, and care and use of tools; they also receive managerial training by planning and figuring the amount and cost of materials.

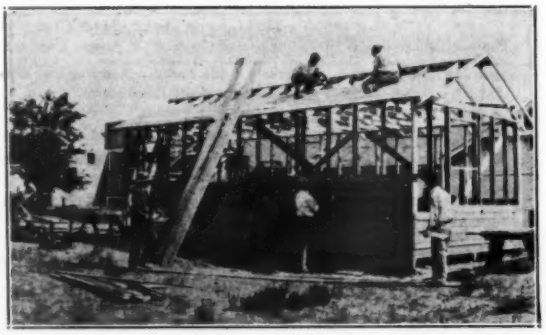
In addition there is no better way of teaching co-operation, thrift, school and community spirit, and business principles than thru participation in a class project of this kind.

Farm Shop Plans

Plans for a modern farm shop and machinery shed map be found on page 19 of the December issue of the Farm Mechanics magazine.

Fitting Pistons and Rings

Instructions for fitting pistons and piston rings will be found on page 23 of the December issue of the Farm Mechanics magazine.



Class Project at Fallon, Nevada

Boys Shauld Be Taught to Think

L. B. POLLOM,
State Supervisor,
Kansas

A COMMON mistake is that of looking upon the farm mechanics course as a means of acquiring manipulative skill only.

While the teacher of course should at all times strive to develop accuracy, precision, neatness, skill, and reasonable speed, he should not lose sight of the fact that the farm mechanics course offers one of the best opportunities to develop resourcefulness, self-reliance, initiative, and ability to think.

It is extremely doubtful if these virtues will be developed if the boy does nothing more in the shop than carry out lists of specific instructions offered on job sheets covering the various jobs he attacks. Most job sheets are the result of the thinking of someone else. It is difficult to see wherein we have taught a boy to be self-reliant and resourceful and to think for himself if his every move is minutely directed by the thinking of someone else thru the exclusive use of prepared job sheets.

Summer Activities in Farm Mechanics

M. A. SHARP,
Iowa State College

ONE of the best places to teach a boy something about machinery is on his home farm.

When making crop project visits try to see the boy at work in the field. Study with him the adjustment of his machines. Compare the cost of operation per acre with his machine to the cost per acre with those his neighbor uses. Is his machine efficient from an economic standpoint?

If the boy has an animal project study with him the facilities he has for housing, feeding, and handling his stock, considering the efficiency of his equipment. Would it pay him to improve it?

When a farmer in the community gets a new machine have the boys study it in operation. If possible have them come in a group, and try to decide whether or not this machine would pay on their home farm. Is the machine in proper adjustment?

Make arrangements with your local implement dealer to have the boys come in a group two or three times during the summer to study new machines he is introducing. Get a field demonstration if possible, and study all new machines from an economic standpoint in your community.

Shop Window Guards

Where shop windows have been placed too low to the floor and tools from benches are sometimes pushed thru the windowpanes, a heavy wire screen guard across the window just above the benches prevents such accidents.

Worland, Wyoming, Has New Farm Shop

LAWRENCE LAMB, Instructor of Vocational Agriculture, Worland, Wyoming

OUT in Wyoming a fine farm shop building has been erected in the Big Horn River basin. It is on the grounds of the Washakie County High School at Worland.

Considering itself one of the very best farming sections of the state, Washakie County decided that it should have one of the finest farm shop buildings in the state. Coming to a high school full of farm boys who have had inadequate shop facilities at school, this new building has found a warm and ready reception. Enrollment in the vocational agriculture classes has doubled and more boys keep trying to get into the course all the time. Leading farmers of the community and leading business men of the town have joined in applauding the advent of the new building.

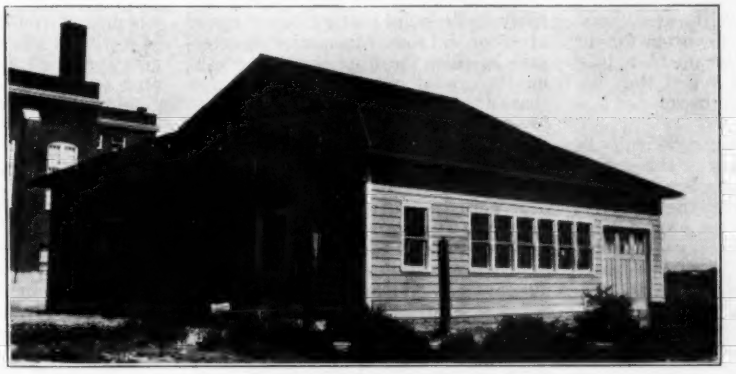
Painted a neutral drab color to harmonize with the sage brush haze of the distant bad-lands and the gleam of the snow clad Big Horn Mountains, the Worland Farm Shop looks as tho it had always belonged to and been a part of the rich agricultural community. Forty-six by thirty-nine feet, it is of ample size. Along the west end are an entry room, a wash room, and a store room.

The entry serves as an office for the instructor and contains rows of hooks on which hang the coveralls of the students. The wash room contains sink, toilet, hot water tank with automatic heater, and more rows of hooks. The store room is of the same length as the other two combined and the same width as they are. All three are floored with wood which is six inches above the main floor of concrete.

The main room has a solid row of windows on the north and south sides. A large folding door is located in the southeast corner thru which large machines may enter. A large flue runs up along the wall of the east end to carry out the smoke of the forge fires. Overhead in the northeast part of the building hangs a lumber rack which holds boards up to sixteen feet in length. Along the south side runs a general repair bench with an electric drill, an electric grinder, a machinist's vise, a pipe fitter's vise and a soldering outfit. Various hand tools hang on the west wall. There are ample electric lights and five double power plugs in the walls. A portable electric circular saw takes the center of interest in a convenient spot near the lumber rack.

Ten manual training benches occupy the floor space along the north wall. The farm shop is the only shop in the Worland schools and here the eighth graders get their woodworking. Suspended from the ceiling is a strong chain hoist.

The building cost $3,800.



Farm Shop at Worland, Wyoming

Bases for Choice of Farm Shop Jobs

C. R. WISEMAN,
Teacher-Trainer, South Dakota

OUR task in farm shop or farm mechanics is educational. The educational products, such as motor habits, knowledge, attitudes, and the like, are the main values. The vocational products, such as the constructed or repaired appliances, altho absolutely necessary for our purpose, are of secondary value.

The general purpose of such a course is to prepare for performance of the unspecialized activities of the farm and not the specialized activities. Performance may be interpreted to mean one or a combination of these motor habits, planning, knowledge, attitudes, appreciation, judgment, standards. In these a reasonable balance is expected.

Choose genuine farm mechanics jobs as course content. If transportable, bring them to the school shops; if not transportable, take the class out to the farm or organize individual instruction in that mechanics problem on the home farm. Only a small amount of time will be spent in so-called practice exercises and these largely confined to the first year.

Choose such activities as will constitute appropriate learning difficulties for the boy. Work out something of a graded series according to difficulty.

Choice of activities should take into consideration the previous training, previous experiences, and vocational interests of the individual boys.

Group and class activities and discussions should be used to offset extreme individualism.

Tentative standards of quality of workmanship and economy of time and materials should be set up.

Farm Mechanics in the Cascade High School

H. A. WINNER,
Vocational Agriculture Instructor,
Cascade, Montana

FARM mechanics is a comparatively new subject in the vocational agriculture course of the Cascade High School, having been started only during the present year. Up to this time the local shop was not large enough, and equipment with which to do the work was not available. In the spring of 1929 the farm shop boys built a new shop building 60 x 24 with about 1,400 square feet of floor space, which gives us plenty of room.

The boys seem to take most interest in working over cars and working with the forge. This work is new to them but there is a lot of interest in it, and each one takes pride in the fact that he can fix up a car in fairly good shape or make things with the forge which are just a little bit better than the other fellow makes.

The class expects to have two tractors to overhaul this spring and no doubt will receive some valuable information in doing the work. The local hardware dealer is supplying some farm implements for the boys to set up this spring and in that way they receive practical experience and get a good idea of the working parts of the machines. Such work has a good deal of value in this country because most of the farming is done with power machinery and very few horses are used.

Some of the most practical farm mechanics jobs are taught in the school because most of the boys meet such problems right on their home farms. This type of work seems to interest them the most because they are actually doing the job.

What Makes Shop Work Interesting

S. R. BEILBY,
Vocational Agriculture Instructor,
Bath, New York

A BOY finds it interesting to practice shooting baskets in basket ball, but it is much more interesting to play in a game.

In the same way, it is interesting for a boy to practice soldering, to see how smooth a job he can do, but it is much more interesting to do some definite job as soldering a handle onto a cover. One thing that makes shop work interesting is for a boy to have some worthwhile shop project. The more the boy feels the need of a job being done, the more interesting it becomes.

There are other factors motivating interest. Most boys are capable of selecting their own shop projects, and are most interested in jobs of their own choosing. To do his own planning, makes a boy's work interesting. He should not be bossed or even helped where he doesn't need it. A boy should feel his own responsibility. It is better for him to work on his own initiative and to develop his own ideas, even tho he might do more work and possibly develop greater skill if his work were more definitely laid out for him.

Supervised Practice

A Unique Project Plan

N. C. SMITH, Teacher of Agriculture, Waverly Ill.

ONE of the bugbears of practical and worthwhile project work in our vocational agriculture courses is the difficulty of financing the boys. Many of these boys are worthy of our aid and assistance in starting a project because they often make the exceptional student and are the best boosters for our work. Quite often they are unable to take an agricultural course and if they do, their project is a failure because of this lack of finance.

To meet this outstanding difficulty in project work, the author of this article devised a plan which he feels is practical. After two years of trial in the Waverly, Illinois, High School it has proved to be efficient as well as financially remunerative to both parties. The plan is based upon the following agreement:

SMITH AND SONS SHARE-BASIS OF RAISING PIGS

This plan provides for the loaning of gilts on the following terms:

1. The gilts are to be kept, properly fed and cared for, by the borrower from breeding time until the pigs are weaned (until the pigs are 10–12 weeks old).

2. The gilts are to be bred to Smith and Sons' purebred Chester White boar and are all eligible for registration.

3. All losses on the gilts due to injury or death are assumed by Smith and Sons. *N. B. Negligence in feeding or care* gives ample reason for asking the return of the gilt.

4. At weaning time each litter is to be divided as follows: The borrower gets first choice of boar and the breeders get first choice of gilt. After which equal division is to be made of the litter, and in case of an uneven number (example, seven) the borrower gets the extra pig. In case all are of the same sex equal division will be made with first choice as stated.

5. All sows are to be returned to the breeders at weaning time of the pigs. In case the gilt loses her litter or fails to get with pig she may be returned by notifying the breeders.

6. Registration will be made of any of the pigs the borrower wants to keep or sell as breeding stock.

(Signed) .....

(Signed) Smith and Sons.

It is granted at the outset that there are loopholes in this plan, but any instructor can work out any difficulties which may arise in order to make it better suited to his conditions. It is sufficient to say that it has worked very satisfactorily to date in all cases. Moreover, any instructor with the proper faith and belief in the boys of our high schools can't fail to encourage in these boys not only interest, profit, and experience in the project work alone, but also some of those qualities which make for better manhood and citizenship, such as co-operation in partnership, honesty in success or failure, open-mindedness and belief in farming, sportsmanship, and work.

The success of the plan is based entirely on the point that the boy is giving his labor and some expense for an enterprise in which the other party is furnishing the capital and that they share and share alike in the returns. This is an entirely different insight into farming than most farm boys have for too often John's dairy heifer becomes Dad's best cow or John's gilt becomes a sow in his father's own herd, repeating yearly the same process of expectancy. True enough, he gets some worthwhile experience but that is about all, and who wouldn't get discouraged? As a member of Smith and Sons' firm which co-operated in this work, I have as yet to see any boy in whom I would not express enough confidence to successfully carry out this plan. If we express our confidence in them they will return honesty for honesty, and that is one quality which if properly developed in all boys will carry them far in this wide business world of ours. Surely this is a worthy educational aim —teaching honesty and fair dealing in all things.

Some instructors may be unable to see how they or the party co-operating with the boys can find anything aside from goodwill in the plan, but I am sure that a much greater interest will be manifested in the project work. I will set down the results obtained after two years of operating this plan at Waverly. These results should aid the instructor in encouraging purebred hog raisers to participate in the plan. As follows:

Seventeen pigs were loaned out, 15 of which farrowed a total of 119 pigs, of which 94 were raised. The boys received as their share 52 pigs and Smith and Sons received 42 pigs. There was thus an average of 8 farrowed and 6.3 raised to the litter. Smith and Sons thus had a return of 42 pigs for the 17 gilts loaned out or an average of 2.6 pigs for each gilt loaned out on this basis. Placing a valuation of $4 per pig at weaning age, they received a return of $10.40 for each gilt in six months' time. The costs involved are:

Interest on investment, 17 gilts, $40 at 6 percent	$20.40
Transportation and hauling	43.00
Registration of pigs	23.00
Total	$86.40

From these figures it can be seen that the 42 pigs cost $86.40 or $2.05 per pig at weaning age. Aside from this it should be mentioned that they had the choice of best gilt in each litter and also had returned to their herd nine gilts which had been proven as they averaged nine or more pigs to the litter. Taking this one factor into consideration, the plan is a success. The advertising feature is extraordinary in that the best local publicity is obtained at no cost. At least it has proved to us that we are in no need of having a sale for we are sold out of gilts every fall. This year we are planning on loaning out at least 20 or 25 gilts on this basis.

Agricultural Project Map

THE use of an agricultural project map in Tulare, California, Union High School by the agriculture department has proved very much worthwhile, according to Instructor Ralph Hooper, because:

1. The location of agriculture projects interest the boys as a whole.

2. Boys are interested in knowing what the other fellows have for their projects.

3. When the principal visits the department the map shows him the extent of our field and project work outside of school hours.

4. When outside people visit the department we can easily picture to them the extent of our project program. This seems to create a greater interest.

5. It assists the teacher to locate the homes of his boys.

6. It brings out geographical and topographical features of the district of value in the study of agriculture.

"In our case," states Mr. Hooper, "our project map was made by pasting together parts of nine quadrangle maps of the United States Geological Survey. This many were necessary to include all of our rather large Union High School district. These were mounted upon a piece of wallboard four feet square which is enclosed in a frame. These quadrangle maps cost 10 cents each. They are valuable maps to have as they are more accurate and complete than any other map which has been made, in this community at least. By sending to the United States Geological Survey at Washington, D. C., one may obtain a list of the quadrangles of which maps are available.

"In using the map, we first type the name of each boy and the name of his project on paper. The paper is cut into small strips and the strip bearing each boy's name is pinned on the map at the location of the boy's home. If he is not carrying a project as yet, his name is typed in red; if he is carrying supervised practical work, then a large red 'S' appears below his name. By using regular map pins with different colored heads it would be possible to indicate different kinds of projects without writing them out."

Experiences With the Home Project

Z. M. SMITH,
Director of Vocational Education for Indiana

OUR experiences with the home project have been both gratifying and disappointing. Those of our teachers who have appreciated the value of the home project in relation to teaching have secured highly satisfactory results. Unfortunately, however, some of our teachers have failed to realize the importance of the home project as a part of their teaching program.

In this discussion I am placing the responsibility for project work upon the teacher, primarily, rather than upon the boy and his father. If the teacher gives the proper emphasis to this phase of his teaching, the pupil and the parent will become impressed with its importance and will co-operate in making the home project effective.

While I have elected to make my brief presentation positive rather than negative, I have not done so with the thought of leaving the impression that all vocational agriculture teachers in Indiana have used the home project successfully in teaching.

The effective use of the home project in teaching has resulted from the observance in practice of certain fundamental principles, some of which are indicated in the following discussion:

1. The teacher has presented properly, to the pupil and the parent, the purpose and value of project work. The home project has not been imposed upon the boy as an inescapable requirement. But rather it has been presented to him and his father as a golden opportunity to acquire knowledge and to gain skill in the practical application of knowledge thus acquired. The boy has been inducted into project work apparently thru his own voluntary efforts to solve the problems that have arisen in connection with the home farm enterprises.

2. The major home projects have been based upon the dominant enterprises on the home farm and have been supplemented with minor projects. The subject matter for both major and minor projects has dealt with the actual farm problems of the boy and his father. The problems have been neither text-book creations nor tasks artificially devised by the teacher. They have sprung from the sincere desire of the pupil to meet real situations successfully.

3. The home project in each case has been of sufficient scope to give the boy managerial experience of practical value and to make the project data applicable to farm problems as they are found in usual conditions on the farm.

4. The teacher has not permitted himself to become the victim of either exclusively or predominately academic methods of instruction. There has not been too much textbook. The instruction has been based on the natural unfolding of the project enterprise and not on a textbook treatment of the subject. There has been close alignment of the teaching with the actual problems growing out of the pupil's experience with his home project.

5. Under the supervision of the teacher, the pupil has outlined his project in co-operation with his father. The project outline has been modified from time to time to meet the situations revealed thru the development of the project.

6. There has been placed in the permanent files of the school a complete and accurate record on each project.

7. The home project in each case has been supervised adequately.

a. The project was visited frequently enough to insure that the boy would receive advice and information when needed.
b. The boy was inspired to initiate inquiry into his own project problems, and was encouraged and reasonably aided in his attempts to find answers to his inquiries.
c. Complete and accurate project records were kept up to date by the pupil.

8. Proper recognition has been given by the teacher to the value of the project records as:

a. A basis for analysis of strong, desirable, successful phases of each boy's project.
b. A basis for analysis of the weak, undesirable, unsuccessful phases of each boy's project.
c. Subject-matter or technical information material.
d. A teaching device to arouse and sustain interest.
e. A desirable method of checking up on job analyses.
f. Criteria by which to measure the boy's achievement in comparison with results obtained by farmers in the community.
g. A basis for working out a system of farm accounting.
h. A guide to sounder economic methods of marketing farm products.
i. An insight into how to finance farm enterprises.

Boys Enjoy Project Analysis

L. D. CLEMENTS,
State Supervisor,
Nebraska

MR. H. A. MILLEN of Imperial, Nebraska, has developed a bulletin board chart method of comparing results of the project work of different boys. The scheme is attractive to the boys and furnishes an excellent method of motivating a study of project analysis.

Some of the very best lessons which the successful farmer learns come from studying the results of his efforts in the various enterprises. The value of the project as a means of learning does not end with its completion and the mere report of gain or loss. Project records should be of most value after they have been completed because by analysis they can be made to show causes, not merely results.

Time spent by pupils under the guidance of the teacher in comparing their results with those of other pupils and of farmers can be made very profitable. Checking costs and returns with those of the experiment station and cost account farms should stimulate real thinking. By the use of this method the pupils will improve their business judgment instead of merely acquiring more skill in performing jobs.

What the project does to the boy is of greater consequence than what he does to the project.

Starting a Purebred Herd of Hogs

WILSON BRYANT,
Vocational Agriculture Student,
Waverly, Illinois

AS A FRESHMAN in the Waverly High School in September of 1927 I enrolled in Agriculture. For my project I selected purebred Chester White gilts. These were taken on a share basis plan from the herd of Smith and Sons of Girard, Illinois.

These gilts were named Perfection Princess and Smith's Princess. They farrowed 17 pigs in March of 1928 and I raised 16 of them to weaning age. The litters were then divided according to the share plan and I received as my share 9 pigs from which I kept 5 gilts and 1 boar for my herd and fattened the other 3 for meat hogs.

Two of these gilts and the boar were shown at the Illinois State Fair and Macoupin and Morgan County Fairs, winning a total of $28 in prize money. I later sold the boar for $45. These two gilts and the other three comprised my herd for 1928 and 1929.

For my project in second year in Agriculture I kept these 5 gilts and bred them to Master Key, a boar owned by Smith and Sons. These 5 gilts farrowed in March a total of 50 pigs of which I have raised to date 46. My best gilt, which won first at Macoupin and second at Morgan County, farrowed a litter of 11 pigs on March 5 and I have raised all of them. There are 5 gilts and 6 boars in this litter.

In feeding my gilts this year I fed them a ration worked out in my agriculture class. They were fed as follows:

From October 1 to November 1 the ration consisted of the following: corn, 15 pounds; oats, 10 pounds; soybeans, 2 pounds; mineral, 1 pound. This was ground and fed as a slop with water and some skimmilk.

From December 1 until farrowing time I gave them the following ration: alfalfa meal, 1 part; shorts, 1 part; oilmeal, 1 part. This was also mixed as a slop and I fed about 2 ears of corn per gilt in addition.

During the farrowing time I fed them a warm slop of shorts and oats and no corn at all. About a week after farrowing I began to feed them liberally again on the same ration as before and gradually increased the amount of corn in order to hold the sows up to proper flesh. As soon as the pigs began to get interested in the sows' feed I started giving them shorts and corn in a creep away from the sows' feed. The pigs are doing fine and I am going to let the sows wean when they want to do so. Already I have several gilts sold for next year.

I plan to keep six gilts and four of the sows for my herd next year. These gilts will be selected from my best litters and I feel that they should enable me to keep up my record with a herd of sows which produce large litters and also carry the show type of Chester White that is desired.

Interest is to human activity what *oil* is to machinery.

A citizen of Springfield, Illinois, recently gave the local department of vocational agriculture $500 worth of soil-testing apparatus.

Evening Schools

Measuring Results in Evening Class Instruction

RAY FIFE, State Supervisor of Agricultural Education, Columbus, Ohio

TWENTY thousand six hundred twelve students have been enrolled in Ohio's part-time or evening courses during the past eleven years. It has occurred to the writer that from the experiences of such instruction there should come some measures of success or failure. In fact several Ohio teachers have asked this year, "How can I measure my part-time and evening work more definitely?" Others have indicated their wish for more concrete standards by comments on their programs. One teacher writes, "I suppose you will be disappointed with my evening school work. I have only ten enrolled." Another says, "I have a good attendance at my evening school classes but I have not gotten anyone interested in supervised practice." Another remarks, "I can get good crowds so long as I furnish special speakers." The last remark indicates that some vaudeville house has been robbed of a desirable audience to provide enrollment for a part-time or evening course but the other comments deserve more serious consideration and bear evidence to the need for definite standards of measurement which teachers can apply to their part-time and evening course programs. So many excellent standards drawn from actual field observations and experience have been given us in recent numbers of the Agricultural Education Magazine that the writer takes pleasure in referring to them.

The November, 1929, number of Agricultural Education which was devoted to Adult Education in Agriculture implies many measures which the teacher can use in his evening course work. Mr. Linke's article, alone, furnishes numerous measures to us. Enrollment is an important measure as indicated by his diagram. The conference method of instruction is superior to the lecture method; systematic instruction on a unit basis is more effective than a general course; there should be a follow-up program which results in improved farm practices; improved farm practice should be reflected in increased farm earnings; co-operative associations should result from evening courses.

"Successful Evening Schools" on page 6 of the November number provide us with some very definite standards. The article by Supervisor Davis from Texas gives teachers some very tangible results in improved practices accruing from one course.

The article by Director Z. M. Smith on the following page affords us still another measure of attainment. "The policy of the two co-operating agencies in developing this special program of marketing instruction has been to strive for quality of instruction and student effort rather than to secure large enrollment." The Indiana Board of Education and the Indiana Farm Bureau evidently aim at the training of local leadership in intensive courses of instruction and have planned accordingly.

The report of South Carolina's evening school program by Supervisor Peterson provides additional standards for the guidance of teachers. Mr. Peterson places special emphasis on practicability and applicability of problems, and adequately supervised practice and suggests further that evening class groups be organized.

Let us state briefly the goals and standards expressed or implied in the various articles: (1) Moderately large enrollment so far as the usual type of course is concerned but not so large that free discussion cannot be secured; (2) the conference method of instruction in preference to the lecture method; (3) unit rather than general courses; (4) a well-organized follow-up program which can be measured in improved farm practices; (5) improved farm practices which can be measured thru increased earnings; (6) many courses should result in co-operative effort; (7) quality instruction in preference to large enrollment where courses are offered to leaders only; (8) evening class groups should be organized; (9) the following standard set up by Supervisor Peterson deserves especial emphasis: "Each evening class must follow a definite course of study to be made up by the teacher after he has visited each pupil to be enrolled in the class and found the practices on his farm which are capable of improvement."

The experiences of Ohio teachers in part-time and evening instruction are in accord with those of New Jersey, Nebraska, Texas, South Carolina, and Indiana in practically all essential points indicating the similarity of problems and solutions.

Practically all articles in the Agricultural Education Magazine stress the importance of some measurement of results of instruction in part-time and evening course work. There can be no question that the end product is a very important measure of all our instructions. The measurement of tangible results may be approached in different ways: First, from the standpoint of increased functional information; second, from the standpoint of improvement in such fundamental practices in an enterprise as will ordinarily result in increased returns; third, from the standpoint of actual increase in labor income itself.

The purely informational course need not be considered here. Information for information's sake has no place in our evening school program. The measurement of such improved practices as are fundamental in an enterprise constitutes a practical measure of a course. Several are here pointed out.

1. W. S. Barger, of Lucas, Ohio, used a checking sheet as shown below at the close of his swine management course.

2. The most exact method of measuring labor income is, of course, thru farm account and enterprise records. In evening class work particularly, records are not easy to obtain. The five vocational agriculture teachers in Knox County, Ohio, with the assistance of the county extension agent, have had considerable success in securing data on increased labor incomes by promoting farm accounts contests in the county along with evening courses on various productive enterprises.

3. On page 8 of the November issue, Agricultural Education Magazine, Supervisor Peterson suggests another method, where enterprise or farm account records are not available. "To make up the final report the teacher and farmer

(Continued on next page)

Name.....

Check improved practices listed below showing those which you have followed in the past and those which you did not follow before taking swine management short course but which as a result of the course you are now following or planning to follow within a year.

	Have Followed in Past	Now Following	Will Follow Within Year
1. Feeding:			
Are you feeding alfalfa, tankage, oilmeal mixture?			
Are you feeding minerals?			
Are you planning to use a legume pasture?			
Are you planning to use a self-feeder?			
2. Sanitation:			
Are you planning to use hot water and lye in hog pen?			
Are you planning to clean sow?			
Are you planning to move pigs to clean ground?			
Are you planning to plow and lime old ground?			
Are you planning to treat pigs?			
When can I help you treat pigs—Date?			
3. Raising More Pigs per Sow:			
Are you planning to secure better sows?			
Are you planning to use better sires?			
Are you planning to feed a protein supplement?			
Are you planning to locate sow in better pen?			
Are you planning to check farrowing date closer?			
4. Hog Structures:			
Are you planning to remodel a hoghouse?			
Are you planning to build a hoghouse?			
Are you planning to build a self-feeder?			
Are you planning to build a creep?			
Are you planning to build a farrowing pen?			

shall agree upon the value of each improved practice." Our Ohio experiences bear evidence as to the high correlation between such estimates and actual records where judgment and care are used in making them.

It is most important that every teacher of vocational agriculture realize the importance of organizing a supervised practice program in evening course work which is something more than a penalty inflicted upon them from the state supervisor's office. Then, following such organization, there should be some concrete measurement of results.

Why not apply to our part-time and evening instruction the excellent yard stick which has been fashioned for us? Vocational agriculture may be accused at times of being crassly material but our critics must admit that such material instruction gives excellent opportunities for definite measurement.

Evaluating Evening Class Instruction

GEO. H. KING.
Vocationa Agriculture Teacher, Winder, Georgia

IN THE early spring of 1929 I conducted an evening class on cotton production at Cook's Consolidated School in Barrow County, Georgia.

One of the several jobs taught was "procuring fertilizer" and it is on this job that I wish to show the method of evaluating the results from the "follow-up" studies which I made.

Out of a total number of 79 farmers enrolling in the class, 49 attended three-fifths of the meetings and only these 49 were included in the follow-up studies which are presented as a basis for evaluating results of my teaching.

The information dealing with fertilizer practices was secured from each farmer in the follow-up studies which were made after the fertilizer practices had been put into effect on the farm:

1. Acres in cotton, 1928.
2. Fertilizer practices in 1928.
3. Acres in cotton, 1929.
4. Fertilizer practices, 1929.

The information as secured from the farmer was tabulated in the form shown in Table I. Two farmers are given as examples.

The fertilizer practices in terms of formulas as indicated above were converted into amounts of plant food elements per acre and arranged as in Table II to indicate changes in practice.

The indicated changes in practices in this form are ready for evaluation and the method used in evaluating one plant food element will be used as an example in the calculations.

The class was taught the amounts of ammonia to use with the following material and it is from these experimental data that the class is evaluated.

It will be noted that Mr. Wall changed his practice in the use of ammonia from 10½ pounds per acre in 1928 to 28 pounds per acre in 1929. Mr. Williams changed his practices in the use of ammonia from 34 pounds per acre in 1928 to 45 pounds per acre in 1929.

Experiment station findings were used as a basis of evaluating these changed practices. From a six-year experiment to determine the best rate of applying ammonia to cotton on Cecil Clay Loam soils, the following average results were obtained with varying amounts of ammonia.* (These data were also used in teaching the evening class how much ammonia to apply to cotton.)

In Table III, we turn to 12 pounds and 30 pounds, the nearest figures, to those actually used by Mr. Wall and find that the net value increased from $18.29 to $19.78 or a gain of $1.49 due to his change of practice in the use of ammonia.

The other farmer given, Mr. Williams, changed his practices in the use of ammonia from 34 pounds in 1928 to 45 pounds in 1929. Referring to the experiment station data (Table III) we find that a change from 38 pounds to 48 pounds, the nearest to the actual figure, would mean the difference between $18.16 and $22.74 or a gain of $4.58 per acre.

The increases or decreases are figured in the same way with other plant food elements, phosphoric acid and potash, and the value of each tabulated. These values are listed in Table IV.

All of the fertilizer practices of all members of the class were evaluated in the same way and the total value of the instruction to the class members was determined. The total valuations of changed fertilizer practices for a class of 49 are given in Table V.

This gives in a brief way a method that is being used very successfully in the evaluation of evening classes in Georgia and we believe that it has proved a stimulus to the evening class work in our own state.

TABLE I

Name	Soil Type	1928 Cotton		1929 Cotton	
		Acres	Fertilizer* Practices	Acres	Fertilizer Practices
Wall, T. A.	C. C. L.	35	350 pounds 9-3-3	35	400 pounds 9-3-3 75 pounds Sulphate of Ammonia
Williams, C. B.	C. C. L.	38	400 pounds 10-4-0 65 pounds Sulphate of Ammonia	38	400 pounds 9-5-5 100 pounds Sulphate of Ammonia

*Note: 9-3-3 phosphoric acid, nitrogen, and potash.

TABLE II

Name	Soil Type	Pounds Plant Food Per Acre By Elements							
		1928 Practices				1929 Practices			
		Acres	Phosphoric Acid	Ammonia	Potash	Acres	Phosphoric Acid	Ammonia	Potash
Wall, T. A.	C. C. L.	35	31½	10½	10½	35	36	28	12
Williams, C. B.	C. C. L.	38	40	34	0	38	36	45	20

TABLE III

Pounds Ammonia	Average Yield, 1921–27	Increase Over No Ammonia	Value of Increase At 6 Cents Per Pound	Cost of Ammonia (Local Prices)	Net Value of Increase
0	601				
12	937	336	$20.16	$1.87	$18.29
18	891	290	17.40	2.80	14.60
24	1,030	429	25.74	3.75	21.99
30	1,007	408	24.48	4.70	19.78
36	997	396	23.76	5.60	18.16
48	1,105	504	30.24	7.50	22.74
60	1,182	581	34.86	9.40	25.46

TABLE IV

Name	Soil Type	Change in Practice Per Acre			Value of Change Per Acre			Acres	Total Value
		Pounds Plant Food							
		Phosphoric Acid	Ammonia	Potash	Phosphoric Acid	Ammonia	Potash		
Wall, T. A.	C. C. L.	31½–36	10½–28	10½–12	0*	$1.49	0*	35	$ 52.15
Williams, C. B.	C. C. L.	40–36	34–45	0–20	0*	4.58	$9.18	38	522.88

*Change not enough to evaluate.

TABLE V

Name of Improved Practice	Number Using Practices As Result Of Class	Scope On Which Practices Were Used	Estimated Value of Increased Production Due to Improved Practices
Procuring cotton fertilizer	49	1,133 Acres	$12,768.04

*South Carolina Experiment Station, Bulletin 245.

Future Farmers of America

F. F. A. Boy Wins American Royal Essay Contest

LESLIE FRY is president of the Missouri State Chapter of the Future Farmers of America. Last November he attended the National Congress of Vocational Agriculture Students of the American Royal Livestock Show, of which, as you know, the Second F. F. A. Congress was a part. When he returned home he submitted an essay to the management of the American Royal entitled, "The Value of My Trip to the American Royal Livestock Show to My High School Work," as did many other boys attending the Show. When the winners in this contest were announced it was found that Leslie had won first place. The other winners in order were: James York, Vineland, Kansas; Ross Reynolds, New Port, Virginia; Jay Winkelman, Mount Pleasant, Utah; Harry Miner, Salem, Missouri; Fred Skaggs, Rogers, Arkansas; Charles Cowan, Rogers, Arkansas; Phillip Alampi, Williamstown, New Jersey.

The prizes awarded by the American Royal ranged from $15 for the first to $2 for the eighth.

Below we print Leslie Fry's essay. Chapter advisers should show this to F. F. A. members. We expect a similar contest will be staged next fall and hope it will be won by an F. F. A. boy.

Leslie's essay follows:

"I dare say that my trip to the American Royal Livestock Show was equivalent to a month of regular high school work. This may seem a rather strong statement, but before condemning me, let me tell you why I make this statement.

"My program consists of Advanced Agriculture, Public Speaking, American Problems, and Plane Geometry, but I can conscientiously say that my trip to Kansas City enabled me to see the real value of these subjects more vividly than I had anticipated. Furthermore, I was exceedingly glad that I had studied the subjects I have had in the past, especially English, for somewhat to my surprise, the group of boys I met in Kansas City were more highly cultured, superior mannered and cleaner thinking boys than I had ever met. My associations with those enthusiastic, high-spirited farm boys has given me an inspiration and a new determination to develop a strong mind and a stronger body. Another interesting thing about that group of boys was that they used good English, free from slang. Cigarette smokers are very much in the minority.

"Now allow me to apply what I learned at Kansas City to the subjects I am studying this year. First, what have I learned in Kansas City that will help me in my 'Agricultural Course'? I have learned that there is a brighter, more prosperous future for agriculture. All the time I was there I was proud that I was a farm boy, and that I was studying agriculture.

"I also heard and even saw some new ideas and methods of how to farm, how to carry on Future Farmer meetings, and how to set new goals. I learned that the organization of 'Future Farmers of America' was not a one-horse organization, but a national farm boys' organization backed by the hearty support of thirty-five great agricultural states. I am more thoroly convinced that agriculture is a business, and not a hit-and-miss plan of making a living.

"My trip to the American Royal benefited me as much in Public Speaking as it did any other course. I found that the leaders of the Future Farmer Meetings were good 'public speakers' and that the good speakers were the young men who were at the top.

"I also realized very forcibly the value of parliamentary law in business meetings. My work in Public Speaking enabled me to take a small part in the F. F. A. meetings. I believe that the farmers of today are lacking in leadership, therefore we, as Future Farmers, should train ourselves for greater leadership.

"A trip to the Stock Show and a course in American Problems—is there any connection between these? Most assuredly there is. Agriculture is an American problem and is entitled to consideration in a course of American Problems.

"Plane Geometry develops the power of thought. Therefore, it will be a help to future farmers for it will teach them to think. The trouble with the average farmer is the simple fact that he does not think. So, if Plane Geometry develops the thought processes, why is it not of value to the farm boy?

"I think of my high school work as a foundation for the future, and I look upon my trip to the American Royal Livestock Show as a check, or test, of how I am preparing myself for a future farmer."

Francis Edsall at Work

Henry Groseclose, executive secretary of the F. F. A., reports on March 12, that 36 states have been chartered, two applications are pending, and that he expects three additional applications will be received by the middle of April. Some day we hope the F. F. A. will have state chapters in all the states.

Poultry Project Takes F. F. A. Boy to College

FRANCIS EDSALL is a freshman agriculture student at Rutgers. How he got to college is an interesting story, but let him tell you about it himself, and after you read it, we hope other F. F. A. boys back in the high schools will consider the matter of continuing their vocational agriculture poultry projects.

"During my Junior year in vocational agriculture in the Sussex High School, I carried a poultry project. I selected poultry because it seemed to fit best with my home surroundings and because I was interested in the poultry business.

I started with 250 baby chicks from which I sold the cockerels as broilers and raised about 120 pullets. The project made me a fair gain and increased my interest in poultry.

Early last year, my agricultural instructor, Mr. Dickerson, suggested that I continue my poultry project and consider the matter of going to Rutgers, taking some of the pullets with me as a means of helping to pay college expenses. He told me that the Sussex County Bankers' Association had built a poultry house at the College Farm for the use of some Sussex County boy who wished to bring birds there to help pay his expenses. I had thought of attending college, but had no expectation of getting there, for I had no means of paying my expenses.

"When Mr. Dickerson first told me about taking birds to the college, I thought the idea rather far-fetched, but after considering it carefully with my instructor and my parents, I decided to try it. I applied for the house and was told that I could have it. Then I purchased 300 baby chicks from a reliable breeder and from these I raised 130 fine pullets. When September came I loaded them on a truck and brought them to New Brunswick, put them in the house, and enrolled as a freshman agricultural student at the college.

"Fortunately for me, there was a room available near the poultry house and I have lived there during the college year. I find that I have plenty of time to take care of the birds and keep up with my studies. I buy the feed and litter and market the eggs thru the Poultry Department of the College.

"Bringing my birds to college has served two purposes: First, it has helped me financially, as my profits plus the sale value of the birds for the year ending April 1 is just about $400; second, it has given me added interest in the poultry business. I expect to continue my poultry project at the College next year.

The most effective F. F. A. work can be done in the local chapters. The members should study the aims and purposes of the organization and develop each one with the local chapter in mind.

Student Organizations as They Relate to Participation Activities of Vocational Students

E. B. MATTHEW, State Director of Vocational Education, Arkansas

IN CONSIDERING the subject, "Student Organizations as They Relate to Participation Activities of Vocational Students," it is my interpretation that the topic applies to both local and state-wide organizations. Therefore I shall discuss it from those two standpoints.

It is generally agreed that some of the fundamental objectives of vocational education in agriculture are the mastery of scientific knowledge concerning the various farming occupations, the development of skills in the approved farm practices including the growing of crops, the care and management of livestock, operation of machinery, farm construction, the marketing of farm products, and the business transactions incident to successful farm management.

A corollary to these objectives is the development of initiative, the satisfaction of that craving of the adolescent youth for ownership and the responsibility of manhood together with economic independence. A by-product of this training has a carryover into the field of character development in its influence on habits, attitudes, ideals, and personality. It is toward the last named objectives that the student organizations contribute. In Arkansas, the Future Farmer Organization in its State Convention in Little Rock last October set up the following goals for this year:

1. To have an F. F. A. Chapter organized in every Federally aided or supervised school by July 1, 1929.
2. A savings account for 25 percent of all the chapter members of the local organizations.
3. Every chapter to foster or give a Father and Son Banquet sometime before July, 1929.
4. The members of F. F. A. Chapters to have a total of $150,000 invested in farming or income investments by December 15, 1929.
5. Every chapter to send delegates to the 1929 State Convention.
6. To foster and promote the usual State Vocational Agricultural Contests and Exhibits.
7. Every chapter to send $1 annually to the State Treasurer to defray the minor expenses of the State organization.
8. To apply for a national charter.

At this convention, 1,200 Future Farmers participated in a week's encampment and school. The entire management of the camp and meetings was given over to the officers of this student organization under the supervision of our state leader. A comparison with other encampments of previous years not sponsored by the students shows: First, a larger attendance; second, more interest; third, reduction of discipline problems to the minimum. In this connection I might say that a check up at the conclusion of the encampment showed no damage to property and a loss of but three cots which may be the result of a miscount, while the previous year the management experienced a loss of several hundred dollars in blankets and cots that disappeared, and in property destroyed.

A complete report cannot be given on the results of the goals set up by the Future Farmers Organization as the year is but half gone, but from such reports as are available it would seem that the objectives are well on the way to a full realization. Some of the achievements that can be noted are a greater number of Father and Son banquets than any previous year, all of which are sponsored by the student organization; more construction and repair of departmental equipment; larger enrollments in State and Regional contests; more vocational buildings; more school publications; more newspaper publicity; a larger number of co-operative school enterprises; more community service work.

A conspicuous example of outstanding co-operative achievement by a local organization is one at Sheridan, Arkansas, that purchased and paid for a departmental truck costing $800. This truck is used to carry the students about the neighborhood in their community service work. Among other things, twenty poultry houses have been constructed by the students during the past year. The teacher in this school relates that the boys have practically relieved him of what formerly was an immense amount of community service work.

Another example of note is the co-operative construction of a community building at Houston, Arkansas. Here, forty-eight young men under the direction of their teacher during the summer vacation and early fall built a community hall eighty-six feet on the square which provides ample room for indoor basketball, amateur theatricals, picture show, community meetings of all kinds, and local fairs. Within the building and removed from the confusion of the public gatherings is provided ample room for the vocational classroom, laboratory and shop. This building serves a real need for the rural folk in a radius of ten miles of Houston and was constructed at a conservative saving of $5,000. Greater, however, than the monetary value involved in this enterprise is the demonstration in the possibilities of co-operative effort, a lesson learned and accepted by the citizens of that locality which doubtless will carry over into more and greater co-operative effort.

Another example of student organization achievement is a Farm Journal Subscription Contest. This contest was sponsored by a certain farm journal that offered to the local organization a very liberal commission with a prize to the school sending in the largest number of subscriptions. In this contest lasting but three months over 2,500 subscriptions were taken. The commission money and prizes in every instance went to the local organization for needed departmental equipment or for some chapter need.

The conservation of our forests is an ever-present problem in my state and one school is conducting a demonstration along a national highway that promises to be a salutary lesson. A section of a forest reserve is taken over by the school at Foreman, Arkansas. Government recommendations are followed and it is the hope that scientific conservation may be promoted and furthered by this co-operative effort.

These are but a few of the many co-operative student enterprises resulting from student organizations and are given as a type of what is being accomplished. There is a promise that these student organizations may make a valuable contribution to the farmers' co-operatives and to co-operative farming. Already a colony has been formed in one section of my state made up of students who have taken the work in their local high schools and are ready for placement. These young men thru necessity due to the limitations of their home farms must enter the farming occupations elsewhere. They have assembled from various parts of the state, formed an association, and are farming a large tract of land on what might properly be designated, I presume, the corporation basis. They are organized in a part-time class and take the regular systematic instruction followed by the required practice work. A feature of the enterprise is a comparison of motorized farming with the best traditional methods, as one section of the farm will be operated wholly by machinery. This "Smith-Hughes colony" began oper-

Continued on page 94

The Danville, Arkansas Chapter of F. F. A. Winner of Third Place in the Farm Journal 1929 Contest

ations February of this year (1929) and can present to us nothing at the present time except a trend in one phase of student placement. It is the hope, however, that this colony may point the way to one method of inducting students into farming after graduation from the local high school where opportunities are not offered on the home farm.

In conclusion, I would say the student organizations contribute to our work by enabling the instructor to carry a larger program; it affords an opportunity for leadership development; promotes an attitude toward co-operation; promotes thrift; adds interest; promotes publicity; trains in citizenship and last but not least it fills a real need in a program of vocational education in agriculture by offering additional means of self-develoepement and self-expression.

Delaware F. F. A. Organized

R. W. HEIM, state director of Delaware, reports the organization of the Future Farmers of Delaware at the time of the annual state Corn Judging Contest held in connection with the State Corn Show.

Following is the program of work of these Delaware F. F. A.'s.

I. Supervised Practice.
  (1) Every member have a long-time supervised practice program including one or more projects and supplementary jobs.
  (2) At least part of each boy's supervised practice program must be started as soon as possible after or before the beginning of school year.

II. Co-operative Activities.
  (1) At least one of the following co-operative projects:
    a. Production.
    b. Marketing.
    c. Buying.
    d. Financing.
    e. Work with neighboring chapter or other organization.

III. Community Service.
  (1) Carry out one or more of the following activities:
    a. Agriculture news sheet.
    b. Farmers' bulletin board in some public place.
    c. Window display of F. F. A. activities.
    d. High school exhibit.
    e. Exhibit at fair.
    f. Put on program at rural school.
    g. Sponsor some community beautification or improvement program.

IV. Leadership Activities.
  (1) Participate in one or more contests individually or on team.
  (2) Each member to lead at least one group discussion.

V. Earning and Saving.
  (1) Every chapter emphasizes thrift thru one of the following plans:
    a. Organize a VO-AG thrift bank.
    b. Organize a VO-AG thrift accounting system.
    d. Participate in the school thrift bank.

VI. Conduct of Meeting.
  (1) At least one meeting each month of the school year.
  (2) Meetings held outside of regular class, preferably at the co-curricular period.
  (3) Definite program for each meeting.
  (4) Emphasize on businesslike, dignified, parliamentary procedure—(Roberts' Rules—revised.)
  (5) Emphasize training to speak clearly in public.

VII. Recreation—At least one of the following seven:
  (1) Father and Son Banquet.
  (2) Educational Tour.
  (3) Sight Seeing Tour.
  (4) Project Tour.
  (5) Camping or Fishing Tour.
  (6) Picnic.
  (7) Rural Life Plays.

For the Chapter President

The F. F. A. gavel pictured on this page was whittled out by Chester B. Titus, a Future Farmer of the Battle Ground Chapter, Indiana.

The idea is well worth passing on to other chapters. The plow beam, the corn, the owl, the sun, and the initials F. F. A. are all shown. The reverse of the beam shows the words Vocational Agriculture.

Chester is a senior in high school. He is planning to work in partnership with his father and two brothers on their vegetable and flower farm. The brothers are also graduates of the local vocational department. Chester has carried projects in orcharding, poultry, and hogs, under the direction of his teacher, J. R. Rees.

Future Farmers Song

S. E. JOHNSON,
Holland Patent, New York

Tune—"Good Old U. S. A."

(1)

"Tell me," said a stranger, when our boys were marching by,
"Who are those boys just passing? what makes them step so high?"
"Listen," said the other, "they're the boys our country needs—
The 'Future Farmers' of our land; and they will do great deeds."

Chorus

When our country calls for food-stuff, who will fill the nation's need?
Who will volunteer to furnish all the milk and corn and seed?
You don't have to ask me twice, sir; I can safely say who will:
The "Future Farmers" of our land; and they will fill the bill.

(2)

"Welcome," say the leaders, when our farmers go to call.
They know they cannot slight them or the nation soon would fall.
Let us stand together, and let me further say,
The "Future Farmers" stand as one in the good old U. S. A.

Chorus

If you're living in the country, you are sure to have a home.
You will never have to worry; rent won't make you moan.
If they ask you where you're from, boys, do not hesitate to tell
That you're living in the country, and it suits you pretty well.

What We Are Shooting At

EACH succeeding generation and every generation has its problems. The present generation of farmers is no exception. In every age and in every industry some individuals have succeeded in solving the problems and by reason of that fact have been acclaimed great. Also in every age and every industry large numbers of individuals have succeeded to a somewhat lesser degree in solving its problems and these have been looked upon as good substantial citizens. Here again the present generation of farmers is no exception for many, many farmers have solved their problems to the extent of being able to rear their families and accumulate enough for comfort during their declining years.

But each succeeding generation brings new problems, not necessarily more difficult problems but different problems. Different problems require different methods of solution. The problems of the farmers of tomorrow will probably not require any more intelligence than the problems of the farmer today, but the farmer of tomorrow will doubtless need a wider range of information than most farmers of today have.

Successful individuals in every age and every industry have a desire in their hearts to leave the vocation to which they have given their lives in a little better condition than they found it.

In order to prepare aspiring young farmers the better to meet the problems they will meet and have to solve, various agencies have been at work in this country to that end. Among these has come the organization of Future Farmers of America. It has come not as a protest against the failure of agriculturists for they have not failed. It has come rather as a measure of preparedness. Successful agriculturists today predict the need of an attitude of co-operation among the agriculturists of the future and the organization of Future Farmers of America has as one of its cardinal principles, co-operation among farmers.

Everyone recognizes the need for leadership among farmers and no one who has observed closely the workings of the organization of Future Farmers of America can fail to see that it is a very effective agency in the training of leaders among young farmers. The valuable experiences they are getting in this organization were unheard of when their fathers were starting out to farm by themselves. I should say that the organization of Future Farmers of America should have for its goal the preparation of its membership to meet its problems with more confidence and solve them more effectively in order that it may render greater service rather than it shall solve its problems with less effort. There will always be problems; they will always be difficult. The more difficult they are, the greater the challenge. Let Future Farmers be prepared to meet the challenge whatever it is.—By. C. M. Miller, State Director of Vocational Education of Kansas, in the February 13 issue of the Newsletter of the Kansas F. F. A.

A fine summer activity for local F. F. A. chapters is a project tour. Visiting the projects of all the boys in a chapter is an excellent method of securing better project work in the school.

Encouraging Thrift Among Future Farmers

AS A PART of the thrift campaign for their Future Farmer chapter the students in vocational agriculture at Lamar, Colorado, have started a thrift bank.

The bank receives deposits from all boys taking vocational agriculture, but membership in the F. F. A. is necessary to vote for bank officials who are elected annually.

The cashier elected by the chapter receives money from members and deposits it with the local bank where it draws 4 percent interest.

The objectives of the bank are to promote thrift and regular saving, to help give the boys training in financial matters, to provide help in financing projects.

In order to have action on one's application for a loan, a student must have made at least seven consecutive deposits. The applications are passed upon in order of receipt, and prospective borrowers must continue to deposit regularly. The applications are considered by the board of directors, and if allowed, the loans are all secured notes at 6 percent interest. A chattel mortgage is given the board of directors to be held as additional security.

Individuals withdrawing funds from the bank are required to give 100 days' notice. Money for loans may be withdrawn only upon vote of the directors and checks must have the signature of at least three officers, one of whom is the cashier.

Mr. West, the adviser, is very enthusiastic over the practical value of the bank. It has already helped three boys establish their projects on a sound basis.

The reaction of the parents toward the bank has been gratifying, several of them stating that they were in favor of anything which would encourage their boys to save money.

The responsibility of the officers has been of benefit to their other schoolwork. The local depository was selected by a vote of the members. The thrift bank directors met with the president of the local bank, who co-operated most heartily with the idea and went so far as to agree to display an F. F. A. thrift bank sign at one of the teller's windows on F. F. A. deposit day.—From Colorado News Bulletin.

The possibilities of the Future Farmers of America are immeasurable. Thru their leadership we may expect a new agriculture—an agriculture lighted by science and organized to demand an equal share with industry in the country's general prosperity. There is no more hopeful sign of progress among our farm population.—Secretary of Agriculture Arthur M. Hyde.

F. F. A. Manual Out

Printed manuals of the Future Farmers of America are available for distribution. Order from the Farm Journal, Philadelphia, Pennsylvania. These manuals are very attractive and the price is 15 cents per copy.

F. F. A. summer camps are found in a few of the states. There should be more of them.

San Angelo, Texas, Wins Again at Fort Worth

AT THE Southwestern Exposition and Fat Stock Show held at Fort Worth, March 8–16, Lewis Beck won Champion Boys' and Girls' Lamb of the Show, first in Boys' and Girls' Fat Fine Wool Lamb Class, first (in a class of 82) in the open Fine Wool Fat Wether Lamb Class, winning $60 in money prizes.

His lamb sold at auction at the record price of $1.50 per pound to the Fort Worth Star Telegram, bringing $240.

The San Angelo vocational agriculture class exhibited 77 lambs at this show, winning a total of $304. It is interesting to note that this vocational agriculture class has had the champion lamb at the Fat Stock Show for the last three years.

Jimmie McManus, showing Bright Randolph, a Hereford Calf, won the grand champion steer of the boys' and girls' class. It was purchased by the T. P. Railroad at 76 cents per pound for its dining-car service.

Winners at Ft. Worth

The Future Farmers of America must help to make life worthwhile by great, satisfying purposes in the lives of the plain people, which will find their expression thru efficient labor for livelihood, the love of learning, and the willing service of humanity. To the rural youth of the nation who are seeking to prepare and to perfect themselves for service thru the organization of Future Farmers of America, I address this motto as embodying the true vocational spirit: (1) Learning to do; (2) Doing to learn; (3) Earning to live; (4) Living to serve.—C. H. Lane, National Adviser, Future Farmers of America.

Chapter Activities in Utah

Richfield, Utah, Chapter of F. F. A. had adopted the service club luncheon idea. Every two weeks the chapter members have a noon luncheon at the high school. The time is occupied in hearing outside speakers, for business meetings, chapter programs, and various co-operative efforts. This type of program has been a wonderful success and the boys can hardly wait until the next meeting.

Wasatch, Utah, Chapter of F. F. A. has a circulating equipment service. The chapter has purchased and otherwise secured equipment needed by the members. This equipment is systematically moved around the district according to the needs.

Joseph F. Skinner, adviser for Spanish Fork, Utah, Chapter of F. F. A. makes a written report each year to the school board of the chapter activities. This keeps the board in touch with the programs and tends to create a sympathy and an active interest for the agricultural program of the district.

Future Farmers Plant School Forest

ON ONE of the hills overlooking the village of Walton, New York, a school forest has been started. The idea for such a school forest originated with the Young Farmers Chapter of the Walton High School and the forest is being planned, planted, and cared for by the boys of that department.

In August, 1924, an appropriation was made by the board of education for the purchase of a plot of land for this purpose, and in March, 1925, five and one-third acres were obtained and set aside for the use of the agricultural department in teaching practical forestry. On this plot there are sixteen young apple trees just coming into bearing which will afford the boys opportunity for practice in pruning and spraying in addition to the experience in practical forestry and in managing the plot.

In one corner of the plot is about one-half of an acre of woods of the kind usually found in a farmer's woodlot. In that section it is planned to take out the less valuable varieties and such other trees as need removing and to thin the rest to the proper thickness. The remaining area of the plot is to be set out to pine. About one-third of the plot was set out last year. It is planned to set out the remaining portions during the next two or three years so that as many boys as possible may have the experience of reforestation. The trees used were 3-year-old pine transplants grown in the state nurseries.

It is interesting to note that this land, which is to support again a forest, was covered with a growth of virgin white pine 100 years ago. Because of this fact the hill itself was named Pine Hill by the early settlers. This hill is visible from all parts of the village of Walton and for many miles in all directions. This forest is destined to become a spot of beauty in the village and a decided financial asset to the school district.

F. F. A. Plaque

The F. F. A. plaque shown below makes a most attractive trophy to be awarded Future Farmer chapters as winners in various competitions.

The seal is manufactured of government bronze and mounted upon a genuine mahogany shield. The L. G. Balfour Company, Attleboro, Massachusetts, is the maker and the price is $9.50. This company also makes some very handsome medals bearing the official seal of the F. F. A.

Developing Constructive Thinking Ability in Vocational Agriculture

(Continued from page 83)

a matter of going to various sources of information and obtaining the needed facts. One cannot weigh any factor until he has the right information bearing upon it. This step involves resourcefulness in getting facts and in selecting facts.

5. *Weighing or evaluating the factors.* This is entirely a mental activity. When the factors are being evaluated one is trying out possible solutions or is making a comparison of relative values. This step is sometimes called "trying out the solutions in thought."

6. *Taking the final decision.* This is simply a matter of drawing a final conclusion as a result of weighing the factors. It means coming to a conclusive determination of what action will be followed. It is the formulation of a plan of action.

7. *Executing and testing the plan.* This means putting the plans into operation and observing the results. It usually implies further observation and experimentation leading to the acceptance or rejection of the plan or conclusive belief or disbelief in it.

The following may be regarded as an example illustrating the steps involved in constructive thinking as just discussed. A boy has decided upon a commercial egg-laying project consisting of a hundred pullets. He wants to select the best breed of poultry for his project. He must make a decision on this problem.

The first step in the thinking process is to state the question which he must decide, which may be, "What breed of poultry shall I select?"

The second step in the thinking process is to identify the factors of this decision. These may be:

1. Breeds adaptable
2. Egg yields.
3. Economy of production
4. Climate
5. Cost of stock

To evaluate these factors he needs specific information. *The third step* in the thinking process will be determining the information needed to evaluate the factors. This information may be as follows:

1. The breeds of poultry best adapted to commercial egg production.
2. The comparative egg yields of these breeds.
2. The cost of producing a dozen of eggs from these breeds.
4. The adaptability of these breeds to the climate of the community.
5. The cost of available stock.

The fourth step in the thinking process is to get the above information from reliable sources. This may be as follows:

1. The Leghorns, Minorcas, and Anconas are best adapted to commercial egg production.
2. These three breeds vary very little in egg production.
3. The cost of producing a dozen of eggs from these three breeds varies very little.
4. The Leghorns and Anconas are best adapted to the climate.
5. Leghorn pullets can be purchased 50 cents cheaper than Anconas and 30 cents cheaper than Minorcas.

The fifth step in the thinking process is to evaluate the factors. Let us assume that this is done as follows: The choice will be made between Leghorns, Minorcas, and Anconas. Factors (2) and (3) will be eliminated because they carry equal values for all three breeds.

The Minorcas are least adapted to the climate. The choice therefore seems to be between Leghorns and Anconas. but the Leghorn pullets can be purchased for $50 less than the Aneona pullets.

This weighing of the factors leads to *the sixth step* in the thinking process. All evidence seems to indicate that the Leghorns are the most suitable birds and the boy decides to select Leghorns.

The seventh step in the process will be a comparison of the cost records of his birds with those of other people in the community who have, for the same productive purpose, Minorcas and Anconas.

It should be remembered that the purpose of the procedure followed in constructive thinking, which has been discussed, is primarily to give training to learners in constructive thinking and to develop correct thinking habits. One who has had considerable experience in solving practical problems has acquired certain intuitions or mental short-cuts in the solution of such problems, and, as a result, can reach conclusions much more readily and perhaps more effectively than can an inexperienced learner whose thinking has never been directed.

In addition to constructive thinking, which functions so vitally in planning and in management, there is also a form of thinking that involves intelligence in the direct application of information and directions to the operations of a job. The mental activity occurring in such thinking is in the nature of sense judgments and involves what is commonly called "job intelligence." This kind of thinking is developed as the instructor observes the way in which the learner goes about in doing a job and as he assists him to more intelligently use his head on the job.

The fact should be remembered that the discussion was made brief to illustrate a procedure and not to solve the problem.

Farm Practice as a Method of Teaching

(Continued from page 83)

ably not a teacher who would abandon this method. If this method has won favor in spite of its being an unwelcome child in the beginning, it must have merit. Why is farm practice a good method to use?

1. *Farm practice teaches the teacher:*
   a. The teacher who would successfully use the farm-practice method learns that he cannot teach just "about agriculture"; he must teach agriculture and about it too.
   b. The teacher selects a different content when he selects something that he knows the pupils are going to use now and in the future. The teacher learns that the content must fit the pupils and the community.
   c. The economic return from farm practice, tho sometimes overstressed, helps the teacher to see the importance of a money return in a vocation. It helps him to evaluate what he teaches in terms of its use in producing an income.
   d. The teacher becomes less bookish. He comes to know that the problem is not in the book but on the farm. More correctly, the boy has or must be caused to have a farm problem. The problems are real.
   e. The teacher is brought into intimate contact with the farming of the community. The teacher uses the community for educative purposes—for himself and pupils.
   f. The teacher is forced to think of the pupils' individuality. The teacher learns to know his pupils. Often a boy who cannot grasp abstract ideas quickly will do excellent farm-practice. Such boys are respected more by the teacher after he understands them.

2. *Farm practice conforms to the standards of good teaching methods.*
   a. It results in self-activity on the part of the learner. Farm practice is self-activity—individual participation. As farm practice is done by individuals, individual differences are taken care of. Farm practice is almost a guarantee that the teacher will pay attention to individual differences.
   b. The learner gets satisfaction from his work. "Nothing succeeds like success" and nothing satisfies like success. The pupil feels that the thing done is worth while. Farm practice of the proper kind and scope challenges the pupil. The pupil has the satisfaction of production, the satisfaction of removing the obstacles that are between him and his goal, the satisfaction of working in real vocational situations, the satisfaction of realizing that he is growing, developing.
   c. Organization is involved. The organization is natural and genuine. Each project becomes an organized center. Information must be interpreted, evaluated, classified, and used on each large unit of activity.
   d. Thinking on the part of the learner is secured. Literally hundreds of demands for thinking are involved in a farm-practice program—(1) Determining the projects to make up the program; (2) determining the scope of each project; (3) determining the best kind of fertilizer or feed; (4) determining the best breed, strain, or variety; (5) determining how to control the insects or diseases; (6) keeping the records, and so on. The ability to think thus developed is more likely to function in later farming because farming now and farming later will have many identical elements.
   e. Farm practice helps develop initiative on the part of the learner. To the extent that pupils are required to initiate their own programs and carry them out, initiative has a chance to be developed.

In order that farm practice may be most educational, each student's farm-practice program should be carefully planned; accurate records should be kept and should be summarized annually or when each "project" is completed; the work should be carefully supervised by the teacher; the labor should be performed by the student insofar as conditions permit; long-time programs should be encouraged; the program should be under the control of the student.